

WizOrder, a User-friendly Interface for Order Entry and Clinical Decision Support Tools

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WizOrder is a workable health care provider order-entry interface system for use by the staff of an academic hospital center. WizOrder provides an easy-to-use, graphical PC-based interface to a commercial mainframe-based order-entry system whose native interface did not achieve ready physician acceptance after initial deployment on a test ward. The interface not only hides the interaction with the vendor system but also provides a platform for the integration of decision support tools, which are viewed by the housestaff as an incentive to use the order entry program.

Developed by incremental changes of an initial prototype, based on suggestions of end-users, the WizOrder interface embodies the following features:

- a step-by-step approach to building completed orders allowing the user to enter as much or as little as they prefer, and prompting for missing information,
- a single screen layout that remains stable during all the interaction (no child windows cover the main window),
- a list of all active orders for the given patient displayed in a well-defined sequence as part of the single screen layout, available and visible during the construction of new orders,
- a string parser and completer with "fuzzy" matching and simple spelling error correction capabilities, to enter new orders in a conceptual manner similar to written orders,
- problem-driven structured sets of orders with default parameters, that allow "express" entry,
- therapeutic-class based allergy, duplicates and drug-drug interaction alerts derived from VUMC pharmacists' databases,
- a "single button" access to monographs about medications developed by VUMC pharmacists,
- a completer for the automatic encoding of ICD-9 codes for diagnoses and procedures,
- a drip rate calculator, an interactive table to check for drug infusion compatibility, as model decision support tools for non-physicians,
- an automated link to related literature references, based on current diagnoses and prescribed medications, that utilizes the UMLS Metathesaurus.

At the users request, a transportable device has also been developed to allow physician order entry during rounds. This device, disconnected from the mainframe system during rounds, provides the same user interface and decision-support tools as the connected system, and uses diskettes to transfer information to and from the mainframe system.

The WizOrder interface as well as the transportable device have been well received by users during their implementation as part of the live production system on selected patient units since February 95.